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Content vs process: Reflections on pre-service primary teachers' approach to integrated social education

Mallihai Tambyah
School of Cultural and Language Studies in Education
Faculty of Education
Queensland University of Technology
Kelvin Grove Qld 4069

The essential knowledge base of teaching centres on subject content knowledge, pedagogical content knowledge and curricular knowledge. This paper investigates, from the perspective of teacher educators, what levels of subject content knowledge are needed by primary teachers in order to teach an integrated social education curriculum effectively. During their university studies, pre-service primary teachers need the opportunity to engage with the curriculum, the theory and practice of social education and develop viable classroom units. Drawing on the reflective practitioner model of teaching, this paper examines the views of five teacher educators involved in the teaching of an undergraduate university subject in integrated social education (SOSE) curriculum. Data gathered from teacher educators' personal reflections and follow-up structured group discussion indicate that subject content knowledge, as revealed in SOSE units was often superficial, while understanding of concepts and skills was also sometimes limited. However, understanding of the inquiry learning process, which is fundamental to social education, was much stronger. This preliminary study adds to an on-going debate on where the focus of pre-service teacher education should be regarding essential knowledge for teachers.

Introduction

The quality of pre-service teacher education in Australia is regularly in the spotlight as the quality of teaching and its impact on students' outcomes is considered by key stakeholders. University teacher education authorities are held responsible for the quality of pre-service teacher education. For example, the Australian Secondary Schools Principals Association (ASPA) was recently reported in the media as claiming that the quality of pre-service teacher education was poor (Buckingham, 2007). In the popular view there are two schools of thought: "One says that teacher education courses, whether pre-service or post-graduate, have little or no impact on teacher effectiveness. The other says that quality teachers are the result of quality teacher education programs" (Buckingham, 2007). This paper is based on the assertion that pre-service teacher education at both primary and secondary level has a huge impact on the work of teachers. Yet the "effectiveness" of teacher education needs to be considered in a holistic sense and not reduced to a technical view where teachers are evaluated according to how much their students learn.

The crucial role of teachers in building a culture of innovation and professionalism in schools was acknowledged in the 2003 Commonwealth Review of Teaching and Teacher Education which stated that "Teachers are the key to mobilizing schools for innovation" (Commonwealth of Australia, 2003, p. 1). Universities and higher education institutions play a critical part in preparing and equipping teachers with "the skills and knowledge needed to develop an innovative capacity in students. They can value, encourage, and model creativity, initiative, enterprise and diverse ways of applying and using knowledge" (Commonwealth of Australia, 2003, p. 3). Of these, the application and use of knowledge in the classroom is perhaps the most important aspect of the work of primary and secondary teachers.

The aim of this study is to examine primary pre-service teachers' approach to developing teaching programs in integrated social education. In Queensland, integrated social education is taught as Studies of Society and Environment (SOSE), an area of study that brings together the social science disciplines in an outcomes-based curriculum framework. The study will examine pre-service primary teachers' approach to developing a SOSE unit. Of particular concern is the intellectual quality of the SOSE units as evaluated and perceived by the university-based teacher educators who were involved in the teaching and administration of the unit.

As recent media attention has highlighted the effectiveness of teacher education on student outcomes, it is useful first to place this study in the context of two current initiatives on "quality" schooling, teaching and teacher education.

The first initiative is the recent report on the inquiry into teacher education *Top of the Class* (Commonwealth of Australia, 2007) which highlighted the need for supporting career-long, on-going professional learning (Recommendation 8) as a condition of renewal of teacher registration. While avoiding comment on the content of teacher education, that is, what is taught and learned in pre-service teacher education (Skilbeck, 2007), the report recommended that research be undertaken "to establish what is meant by quality teacher education outcomes" (Commonwealth of Australia, 2007, p. xxii), specifically the impact of teacher education, through course content and assessment. The current study is an examination of pre-service primary teachers' approach to developing a SOSE unit in their second year of teacher education, and in this sense it addresses the research imperative identified by the Commonwealth to investigate course content in teacher education.

The second initiative relates to efforts to research and define "quality teaching" as defined by Teaching Australia. This is a federally funded organization to raise the status, quality and professionalism of teachers and school leaders throughout Australia. In *Teaching and Leading for Quality Australian Schools* they state that "quality teaching" is defined indirectly "either through its impact on student outcomes, or through the presence of professional attributes, including skills, knowledge, qualifications and professional learning" (Teaching Australia, 2007, p. iii). Teaching Australia identifies three domains of quality teaching and leadership: contextual factors, professional practice and attributes and capabilities. One of the professional practice factors identified in the study was *selection of content (knowledge)* where quality teaching was defined to include "content of high intellectual quality, integrated from a variety of knowledge disciplines, connected to prior knowledge and relevant to students' lives" (Teaching Australia, 2007, p. 8). One aspect of this study is to examine the disciplinary basis to primary SOSE teacher-education.

Primary teachers are distinctive from the majority of their secondary school colleagues in that they are generalist teachers, usually responsible for teaching the full range of Key Learning Areas. Given the general nature of their university study in the core disciplines, the question is ***where do primary pre-service teachers start when selecting content or an area of study for a SOSE unit?***

This question will be examined through the eyes of SOSE teacher educators who were involved in a semester unit on primary SOSE curriculum and pedagogies in the BEd program at QUT in 2006. The study is theorized within Shulman's (1986) knowledge base for teaching which distinguishes three broad categories of content knowledge: subject matter content knowledge, pedagogical content knowledge and curricular knowledge (Shulman, 1986). Shulman defines content knowledge simply as referring "to the amount and organization of knowledge per se in the mind of the teacher" (Shulman, 1986, p. 9). Further exploration and development of Shulman's knowledge base for teaching by Turner-Bissett (2001) will be used to analyse primary pre-service teachers' approach to subject knowledge. Aspects of these novice teachers' subject knowledge and pedagogical content knowledge as revealed through teacher educator's reflections on their work with these pre-service teachers will be examined in this study. The study tests the validity of Shulman's theory of the essential knowledge base for teaching in primary school and raises questions about where the emphasis should be in teacher education.

Subject knowledge in primary education

The issue of teachers' knowledge has become accepted as one of the key aspects to improving educational practice (Poulson, 2001). This view is based on the widely held assumption "that teachers who know more teach better" (Cochran-Smith & Lytle, 1999, p. 249). It seems a simple idea and one that has been most influential in efforts to reform or improve education through policy, research and practice by focusing on what teachers know or need to know (Cochran-Smith & Lytle, 1999). When focusing on teachers' knowledge and the sources of their knowledge, however, it is important to note the multi-faceted nature of primary education and avoid adopting a deficit view of primary teaching.

The issue of subject matter knowledge of primary teachers is a central concern for educational researchers in a variety of subject areas both in Australia and overseas. In Queensland, Studies of Society and Environment (SOSE) is an integrated, outcomes-based humanities subject taught from years 1-10. The broad scope of the Queensland SOSE syllabus (QSCC, 2000) poses many challenges for practicing teachers in the primary and middle years of schooling. SOSE integrates a number of social science disciplines including history, geography, economics, sociology and politics. In addition, SOSE includes areas such as environmental studies, Aboriginal and Torres Strait Islander studies, Asian studies and civics and citizenship. Most Queensland primary schools teach SOSE in transdiciplinary units which may incorporate the KLA of English, Science, Health or Maths. The task faced by Queensland teacher educators is to design curriculum units that provide primary pre-service teachers with sufficient knowledge of the SOSE curriculum and pedagogy associated with the disciplinary basis of SOSE.

The problem of subject knowledge in primary SOSE in Australia is similar to that experienced by elementary teachers teaching social studies in the USA. Here there has been a long tradition of integrated humanities education in the teaching of "social

studies" with the formation of the National Council for the Social Studies (NCSS) in 1921 which included history, government, economics, geography and sociology (Marsh, 2004). Commenting on social studies education in the USA, Thornton (2001) raises the question of how much depth and breadth in the social sciences do teachers need to teach primary school students, and which of the social sciences are essential or peripheral to the teaching of social studies. While secondary teachers have a stronger knowledge base because they major in one or more of the social sciences, even their knowledge base does not equip them fully to meet the subject demands of "social studies" school courses in the USA (Ingersoll, 1999 cited in Thornton, 2001). Thornton asserts that coursework that promotes teaching social science methods and which is contextualized to the teaching of particular subject matter is needed. He gives the example where map skills are taught in the abstract, although they are best learned within a context and should be used to advance thinking. He makes the argument that teaching methods courses should be closely aligned with subject matter, and that teaching for depth and competence in methods courses is advisable because certain aspects of method related to social science teaching is unlikely to be acquired elsewhere (Thornton, 2001).

Subject knowledge may be gained in many ways and the methods approach advocated by Thornton aligns well to the conception of "powerful teaching" advocated by the NCSS in 1993. According to Yeager (2000, p. 352), the NCSS suggests that ideal social studies teaching and learning is "meaningful, integrative, value-based, challenging, and active." It is suggested that "meaningful" social studies teaching is based on themes and that to be "integrative" teachers must address "broad forms of knowledge that crosses disciplinary boundaries" (Yeager, 2000, p. 352). This "wise practice" (Yeager, 2000, p. 353) approach to social studies teaching emphasizes the importance of good content knowledge, critical thinking, modeling intellectual curiosity and use of different instructional approaches appropriate to the topic. While elements of this approach may go some way to resolving the problem of how to teach an integrated humanities curriculum, the lack of a disciplinary knowledge basis in primary teachers' subject knowledge has raised concerns in the United Kingdom and Australia.

The need to reconstruct the nature of teachers' knowledge in primary education was flagged in the United Kingdom with several studies in the 1990s into the extent of primary teachers' subject knowledge and the relationship between knowledge and classroom practice (Aubrey, 1997; Wragg, Bennett & Carre, 1989 cited in Poulson, 2001). The interest in primary teachers' knowledge base, according to Poulson (2001) was motivated by the policy context and perhaps also by the interest in identifying a scientific base for teaching.

Certainly the teaching of history in UK primary schools has raised some concerns about the nature of primary teachers' knowledge. Newton and Newton (1998) adopt Wilson's (1991) assertion that history teachers need to know their subject well and the subject-specific ways of teaching it. According to Wilson (1991) history teachers need a detailed knowledge of events, be able to differentiate between different aspects of an event, be able to qualify accounts of events and be able to relate events to each other. Newton and Newton (1998, p. 42) believe that underpinning this historical knowledge is the teachers' ability to develop students' historical understanding which "can generate explanation and reasoned argument". They assert that generating historical understanding is a matter of "enculturation" (Newton & Newton, 1998, p. 42) developed through teachers' examples and explanations of events and evaluations of students'

work. As no two teachers experience the same enculturation, there could be differences in conceptions of historical understanding. They argue that the nature of historical understanding needs to be made more explicit in teacher preparation courses by asking students to describe what they think is meant by historical understanding. Particularly in primary school where history teachers come from very different educational backgrounds, they argue that developing a historical understanding is key to knowing that the unique conditions of a historical event do not occur again, and that "the event must, in the end, be understood through those unique conditions" (Newton & Newton, 1998, p. 43).

Turner-Bisset (2001a) takes up the Newton and Newton's argument, pointing out that there is little research on primary history teaching because history is not taught in all primary schools and is often taught by non-specialists. Turner-Bisset asserts that much more needs to be done in primary teaching courses beyond the teaching of historical understanding. She draws on evidence from a primary teacher education course conducted at the University of Hertfordshire that had three aims: to give teachers a comprehensive repertoire of teaching approaches in history, knowledge of the substantive and syntactic structure of history as a discipline and to challenge attitudes and beliefs about history (Turner-Bisset, 2001a). She concluded that there was some success in changing teachers' understanding of the nature of history as a result of the course. Primary teachers in the course reported that they now realized that history was not about memorizing facts and dates and there was more enthusiasm, liking and enjoyment of the discipline. Concerned whether initial teacher education would have a long-term impact, a third of those involved in the study sample reported that their positive attitude would impact on the children they taught. Turner-Bisset (2001) concluded from this work with primary pre-service teachers that historical understanding alone is insufficient without some notion of the nature of history and that the results were equally applicable to secondary teachers.

Similar to the concern with primary history, in the UK there is concern that primary geography, too, is taught by non-specialists. Martin's (2005) research into how primary teachers conceptualise geographical education showed that pre-service teachers entered the course with a wide range of expectations and attitudes towards geography based on prior experience. However, it appeared there was a significant gap between what pre-service primary teachers said they knew about geography and what they actually understood about geography, because they did not see many of their everyday experiences as geographical. Martin advocates a new kind of geography for primary school which recognizes the value of daily experience as thinking geographically which is suited to the primary school context. She proposes that 'everyday' geography or 'ethnogeography' would revitalise primary geography by recognizing that all students are geographers. For teachers, the challenge is to get students to see the link between their daily experience and how geographers see the world and be able to develop a "geographical imagination" (Martin, 2005, p. 367; Martin, 2006). The lack of disciplinary knowledge in geography may be linked to the structure of teacher-education courses in the UK. Catling (2006, p.108) has raised major concerns that the very limited teaching time in geography for UK primary trainee teachers has resulted in significant "weaknesses in their knowledge and understanding of both the subject and its teaching that need to be addressed".

The studies of primary history and primary geography teaching in the UK indicate that unlike the United States, the primary humanities curriculum is discipline-based, even

though not all schools teach geography or history in the primary years. The arguments above are strongly in favour of retaining distinctive aspects of the discipline of history or geography even in the primary years of schooling.

In contrast to both the USA and UK, in Australia there appear to be no systematic studies of primary teachers' subject knowledge of SOSE or social education in the primary years, even though "social studies" was taught in Australia from the mid-1970s (Marsh, 2004). Rather, there are a few studies of primary teachers' knowledge of areas associated with SOSE including environmental education and Aboriginal Studies.

In their study of environmental education in pre-service teacher education of Queensland primary teachers, Cutter-Mackenzie and Tilbury (2001) found that student teachers' knowledge of facts, principles and concepts about environmental education was weak. Teachers in this study had positive beliefs and values about environmental education which were valued over the "content, substantive and syntactic knowledge of environmental education" (Cutter-Mackenzie & Tilbury, 2001, p. 30). In further research with Queensland primary school teachers Cutter-Mackenzie and Smith (2003, p. 497) found teachers "are likely to be functioning at a 'knowledge' level of ecological illiteracy and/or nominal ecological literacy". Environmental education is a significant component of the SOSE curriculum and it is a matter for concern if primary teachers do not appear to have substantive knowledge of issues in environmental education.

A socio-critical approach to environmental education is a relatively recent development in environmental education, with the emergence of education for sustainability or sustainable development (Taylor, Kennelly, Jenkins and Callingham, 2006). A compulsory education for sustainability unit conducted at the University of New England by Taylor et al. (2006) for primary pre-service teachers was successful in improving student-teachers' knowledge of a range of environmental issues, raised awareness of important local and global environmental issues and included programming for integrating environmental education into the primary curriculum. Responses to the post instruction survey indicated that students continued to objectify the environment; however, Taylor et al. (2006) concluded that compulsory education for sustainability units addressed the concerns about ecological illiteracy raised by Cutter-Mackenzie and Smith (2003). Student-teachers in this course had increased knowledge of a range of environmental issues and a deeper appreciation of environmental issues away from those highlighted in the media. Furthermore, instead of feeling helpless, they seemed to feel empowered to deal with environmental issues.

The impact of targeted pre-service primary teacher education is just as effective for the teaching of Aboriginal Studies. In a critical evaluation of the impact of mandatory Aboriginal subjects on pre-service primary teacher education, Craven, Marsh and Mooney (2003) report that pre-service teachers who have undertaken mandatory subjects feel they are more capable of teaching Aboriginal students. They are more confident teaching Aboriginal Studies and are more likely to enjoy the experience. Pre-service teachers in this study considered it most important to include content on how to teach Aboriginal children and contemporary issues, specifically stereotyping, Aboriginal culture and people today, and Aboriginal rights. Craven et al. (2003) conclude that Aboriginal Studies units make a real difference in teacher education curriculum and they should be delivered in a range of ways, including mandatory and elective units.

The existing literature on primary pre-service teacher education in SOSE does not map primary teachers' knowledge or confidence with the disciplines that underpin the KLA, but important work has been done pointing out the usefulness of targeted, compulsory units on education for sustainability and Aboriginal studies which is essential to the SOSE curriculum. As studies from the UK, USA and Australia have shown, there is concern over primary teachers' subject knowledge in the humanities, but in each of these countries, humanities education takes a different form and emphasis, thus making it difficult to draw useful comparisons. However, the issue of primary teachers' subject knowledge appears to be a common concern, and it is possible to theorize this issue further by reviewing Shulman's (1986) view of the knowledge base of teaching in relation to primary teachers.

Theory of the knowledge base for teaching

Shulman's theory of the knowledge base for teaching distinguishes three broad categories of content knowledge: subject matter content knowledge, pedagogical content knowledge and curricular knowledge (Shulman, 1986, 1987). Each of these broad categories has been further explored by Turner-Bissett (2001). It is briefly reviewed here as it underpins the theoretical framework for this study.

Subject content knowledge refers to propositional knowledge and an understanding of the structure of the discipline. It goes beyond a simple collection of facts or concepts of a domain collection and reflects substantive knowledge, syntactical knowledge and beliefs about the subject (Turner-Bisset, 1999, 2001a). In terms of subject knowledge, teachers need far more than a shallow grasp of the main issues or facts—rather, their beliefs about a subject, knowing the essential facts and concepts, as well as being able to defend why something is worth knowing is all part of the subject content knowledge base of teaching.

Pedagogical content knowledge is the most widely known and researched of Shulman's ideas. He distinguishes between "general pedagogical knowledge" and "pedagogical content knowledge" (1987, p. 8). The former refers to general teaching principles including classroom management and organisation. While these are essential aspects of the craft of teaching, Shulman considers pedagogical content knowledge as a "second kind of content knowledge" which refers to "the particular form of content knowledge that embodies the aspects of content most germane to its teachability" (1986, p. 9). What is meant here are "the ways of representing and formulating the subject that make it comprehensible to others" including "analogies, illustrations, examples, explanations" (Shulman, 1986, p. 9). He asserts that pedagogical content knowledge is particularly important because it blends content and pedagogy in a distinctive way that distinguishes content specialists from teachers. Primary teachers are thus likely to have conceptions of pedagogical content knowledge which could possibly be different to knowledge of the same subject held, for example, by a historian or geographer.

Curriculum knowledge refers to knowledge of the full range of "materials and programs that serve as 'tools of the trade' for teachers' (1Shulman, 1987, p. 8). It includes curriculum and instructional materials and knowledge of alternative curriculum materials for a given topic. Considered "strategic knowledge" (Shulman, 1986, p. 10), curricular knowledge includes both knowledge of the curriculum, other curriculum approaches to teaching the same topic and familiarity with the curriculum materials being used by the students at the same time in other subjects. Shulman argues that

knowledge of the lateral curriculum is particularly appropriate in secondary education because it enables the teacher to make connections and relate the content of a given lesson to other topics being studied simultaneously (Shulman, 1986, p. 10).

Shulman argued that researchers need to work with teachers "to develop codified representations of the practical pedagogical wisdom of able teachers" (1987, p. 11). Though difficult to codify, the "wisdom of practice" (Shulman, 1987, p. 11) is an important knowledge base for teachers. However, one could question whether disciplinary knowledge and the practical wisdom of teachers working in the discipline is stable and can be codified. Certainly, Shulman's view of the knowledge base of teaching assumes that disciplinary knowledge is relatively stable, and similarly, that the professional knowledge of teachers is stable and able to be codified (Doecke, Locke, Petrosky, 2004). Shulman's conceptualizations of the knowledge base of teaching, particularly pedagogical content knowledge, has been very influential in studies of the knowledge base of secondary teachers (Poulson, 2001), but how applicable is it to primary teachers, given that their work is highly integrated and they have to teach across numerous subject areas?

Shulman (1987) himself questioned the applicability of subject content knowledge as the central basis of knowledge for primary teachers. Although subject content knowledge is central to the work of both primary and secondary teachers, Shulman and associates conceded that the relationship between subject knowledge and pedagogical content knowledge was far more complex for primary teachers who taught numerous subjects (Grossman, Wilson & Shulman, 1989). Drawing on her analysis of UK studies of primary teachers, Poulson (2001, p. 47) concludes there "seems to be little evidence of a clear relationship between a well-developed formal academic knowledge of particular subjects and effective teaching in the primary phase of schooling", despite the emphasis in both research and UK government initiatives (such as DES Circular 14/93) on the importance of subject matter knowledge for teachers (Turner-Bisset, 1999). Perhaps the key is that primary teachers, in contrast to secondary teachers, are teaching subject knowledge that draws on disciplinary knowledge, but they are not teaching the discipline, per se; rather, they are teaching "topics" or processes associated with learning in mathematics, science or environmental education.

Despite reservations of the applicability of Shulman's theory of the knowledge base for teachers in the primary phase of schooling, the importance of subject knowledge cannot be discounted. The source and scope of this knowledge base becomes particularly important if primary teachers are to do any justice to SOSE in primary classrooms. Teacher educators' reflections on SOSE teaching programs developed by primary pre-service teachers in a university-based SOSE curriculum unit provide insight into the kinds of knowledge displayed by primary pre-service SOSE teachers.

As the study was conducted in a university context, in the following section of the paper, for the sake of clarity, primary pre-service teachers are referred to as primary student-teachers. The research participants, hitherto called teacher-educators, are referred to as tutors. The writer was one of the five research participants in the study.

Method

Background

The study was conducted in conjunction with a curriculum unit titled "SOSE Curriculum and Pedagogies" at Queensland University of Technology in 2006. Conducted over 13 weeks, the unit is compulsory for all students undertaking the Bachelor of Education in primary education. Students enroll in the unit in their second year following their first teaching practicum, and it is the only opportunity they have to engage with the SOSE curriculum, pedagogy and assessment during their four year teacher education program. In their first year students complete a foundations unit with a strong focus on citizenship. As this is primary education, students do not complete any discipline-specific studies. However, during the program students have the option to select from a wide variety of electives, ranging from general education electives such as managing learners to KLA-specific electives such as the global teacher and environmental futures.

The rationale for the unit states that students need a broad understanding of social education and that the unit aims to enhance understanding of the SOSE curriculum area. In 2006 the unit enrolled over 220 students.

Purpose and design of the study

The aim of the study was to gather data on teacher educators' conceptions of primary student-teachers' approach to SOSE content. Data was gathered from the tutors working with primary student-teachers enrolled in a university-based SOSE curriculum unit.

Research participants

In 2006 the unit was taught and coordinated by the researcher and a team of four tutors. All had subject expertise in several of the disciplines underpinning SOSE and school teaching experience in integrated social education curriculum in either primary or middle school settings. Sue (names have been changed to preserve anonymity), has extensive experience in providing professional development in SOSE, and Cate, is a senior history teacher and school administrator. Elsie is a former senior business and SOSE teacher and Hugh has taught in both primary and secondary school settings. The researcher, Tina, is a former history and English teacher with senior and middle school teaching experience.

An email was sent to the tutors before the end of the marking period, detailing the scope of the study and requesting written reflections on the unit based on a short set of questions. Reflections were written by each of the tutors associated with the unit including the researcher, who was also the unit coordinator and lecturer. A follow-up group meeting was held with two respondents and individual discussions held with the other two respondents. In these discussions the researcher referred to selected points made in the reflections and the respondents were able to elaborate further. Written notes were taken by the researcher during each of the follow-up discussions.

The data was gathered over a five week period after the marking of the units was completed. As the data is based on tutors' reflections on the students' work, it was important to note thoughts and feelings while the memory of the experience was relatively fresh.

Structure of the SOSE unit and assessment

Students attend a weekly lecture and two-hour tutorial on topics such as the nature of SOSE, using the inquiry process in social education, values education, teaching strategies and assessment, unit planning and evaluating resources. The curriculum context of outcomes-based education is explored in the first few weeks, with a focus on developing a good understanding of the Queensland SOSE syllabus. The specifics of unit planning and assessment are addressed mid-semester. The last 2 weeks are dedicated to short lectures on each of the four strands in the Queensland SOSE curriculum: Time, continuity and change, Place and space, Culture and identity and Systems, resources and power. The major assessment item in the unit is to develop a SOSE unit suitable for primary students based on the Queensland SOSE syllabus.

The first part of this assessment is to write a rationale for a topic related to the Queensland SOSE syllabus (QSCC, 2000) and develop a key question. Students have to choose a suitable topic, chosen from the topic categories listed in the syllabus and further elaborated in the SOSE Sourcebook Guidelines (QSCC, 2001). This rationale is an academic justification for the choice of topic and students are required to refer to read in-depth on the topic and refer to least 3 topic-based, tertiary sources to justify why they chose the topic and show how it relates to primary students. The purpose of this task is to encourage wide reading and deep understanding of the topic. Primary student-teachers are encouraged to be responsible for subject-specific knowledge in SOSE as preparation for good teaching practice.

The second part of the assessment is to develop a SOSE unit of work for primary students in response to a key question. Students are expected to develop a unit overview, accompanied by curriculum resources and assessment item. The purpose of this task is to ascertain how well primary pre-service teachers are able to engage with inquiry learning and assessment as it applies to SOSE. Reading the unit rationale and the overview together enables the tutor to assess the student-teacher's grasp of both subject content knowledge and, to some extent, pedagogical content knowledge in SOSE. At all times tutors are aware that these student-teachers are in their second year and therefore cannot be expected to present polished curriculum units.

Tutors work with tutorial groups of 25 students each week. Some time each week is devoted to individually consulting with students on their topic and providing detailed scaffolding on how to structure an inquiry-based SOSE unit. Students are encouraged to seek formative feedback from their tutors on the conceptualization of the topic and the formulation of a key question for the unit. Weekly tutorial activities introduce students to a range of SOSE teaching strategies including higher order thinking activities, and students are encouraged to draw on this repertoire in their own units of work.

On submission, tutors are expected to mark each student's SOSE unit according to set criteria and provide detailed feedback on the development of core concepts and content of the topic, use of inquiry learning and SOSE teaching strategies, and the development of a summative, outcomes-based assessment item. Tutors had about four to five weeks to devote to marking the SOSE units with each tutor marking between thirty and sixty assignments.

Data analysis

The data from the written reflections (R) was read and correlated with the data which emerged from the follow up discussion and interviews (D) as recorded by the researcher. The significant quotations from each tutor were identified and numbered They are indicated in the report that follows by pseudonym, data type and number. For example, "Hugh (R)#1" refers to the first quotation from Hugh's reflections and "Hugh (D)#1" refers to the first quotation from Hugh in follow-up discussion. The data was read, coded and analyzed by the researcher for emerging common themes. During this process common issues were identified in relation to subject content knowledge and pedagogical content knowledge. While there was no attempt to differentiate between individual tutors' tutorial groups or to single out the work of particular student-teachers, in some cases an example of student-teachers' work was given to demonstrate a particular view. The data was considered in relation to generalizations that could be drawn about the student cohort as a whole.

The data was analyzed in relation to the student-teachers' approach to content, choice of SOSE topic, the source and origin of their topic, their conceptualization of SOSE teaching in the classroom and use of the inquiry approach. Despite the small number of research participants (n=5) the material drawn from their written reflections and follow-up discussions provided sufficient material to draw some inferences and tentative conclusions about these primary student-teachers' knowledge base in SOSE.

A knowledge base in primary SOSE

Approach to content:

Each of the participants reported that in general, the primary student-teachers appeared to have a limited grasp of the content of their SOSE topics and that the topics were treated quite superficially. According to Hugh, the students had approached the content in a "haphazard and laissez-faire manner" resulting in "a number of examples [that] show … both content and specific knowledge within areas of content were neither deep in reasoning or wide in understanding" (Hugh (R)#1). He cited specific examples where factual errors had been made, such as a unit on the Australian flag where key areas in the development of the flag and symbolism were incorrect, and another where environmental issues pertaining to Fraser Island had been presented in a one-sided, controversial way. According to Elsie, "Many seemed to have had a fairly limited/cursory experience of SOSE from Prac [teaching practice] and were unsure of what SOSE actually was" (Elsie (R)#1). She gave the example of two units on "Asian culture" with no attempt to differentiate between the cultures of China, Japan or Hong Kong, culminating in a 'day' where students attended school in a particular 'Asian' dress but did not attempt to demonstrate deeper cultural understanding or intercultural awareness (Elsie (R)#1).

Topics chosen:

No attempt was made to conduct a survey of the SOSE topics that students chose to develop, but each of the respondents cited popular topics and a few others that were relatively unusual. These included environmental topics: water, endangered species, climate change, recycling, Fraser Island, land management, pollution, the Great Barrier Reef. Topics on culture included: Australian identity, multiculturalism and cultural diversity, friendship, heroes and "other cultures". Sue reported that units on

multiculturalism and multicultural Australia had little substantive content (Sue (R)#1). Tina reported that several units on multiculturalism specifically referred to footage of the 2005 Cronulla riots that had been shown during the lecture (Tina (R)#1). Topics for younger students included identity, families and family diversity.

History topics included: the gold rushes, the "discovery of Australia", ANZAC Day and the Eureka Stockade. Sue commented that the historical topics in her group were chosen by the "poorer" students and that the history topics "were not made problematical and showed little reading on the topic" (Sue (R)#2). In Hugh's view, historical understanding was based on popular culture. For example, students had no indepth understanding of topics such as ANZAC day or why Australia was involved in war (Hugh (R)#2).

In terms of indigenous studies, Cate mentioned that all bar two of her thirty-five students "said they were fearful of doing this 'topic' because they felt they might 'do it wrongly'" (Cate (R)#1). The other four respondents did not specifically mention that indigenous studies were a SOSE topic of choice amongst their students. Tina singled out a unit on democracy for special mention (Tina (R)#2), and Sue stated that there were some interesting topics selected "largely by students who got good results" on refugees, land rights, child labour, history of toys and community issues/citizenship (Sue (R)#3). However, she concluded that "the students' 'lack of general knowledge impedes the choice of topic they make" (Sue (R)#4).

Sources of content:

Two of the participants reported that during the course of the semester that they had identified the senior secondary background of their student-teachers. Cate reported that "students who had recently done senior History, Geography, Economics/Business focused on Key Questions [KQ] that centered on these disciplines then extended them to fulfill more CLOs [core learning outcomes]" (Cate (R) #2). She felt that the "content depth and coverage" for these topics was much better than the others, "particularly if the student expressed how much they had enjoyed that subject at school" (Cate (R) #3). Hugh concurred that a senior social science background was very important. In follow-up discussion he stated that if the student had "loved" senior study they were usually motivated to find out more for their SOSE unit (Hugh (D)#1).

Sue undertook a brief survey of her 48 students' senior secondary background in SOSE. Acknowledging that not all were present when she asked for this information, she identified that 30 of them had taken either history, geography, economics or legal studies, with 6 taking more than one social science. However, 13 had no social science background at all. Drawing on this information and having read all their SOSE units she commented,

> We need to acknowledge that we are starting from a very low knowledge base. I have encouraged my students to choose as a topic for their unit an area where they have no background knowledge so they can get a broader view, but I think most of them went back to what is familiar to them (Sue (R) #5).

In follow-up group discussion it was emerged that the disciplinary basis of SOSE was not included in the students' course, and therefore some of the primary student-teaches "have not done the disciplines since Year 7" (Sue (D) & Elsie (D)#1).

In the main, the source of primary student-teachers' subject knowledge in SOSE, was common knowledge and personal experience. In follow-up discussions tutors revealed that some of their students thought they did not have to learn further about their topic. This was particularly true in the case of Cate's students. Her cohort was made up of a significant number of mature-age students and others who wanted a career change. Teaching at a satellite campus located in an outer Brisbane suburb, Cate said her students knew that in contrast to Maths, English and HPE where the content had to be consciously learnt, in SOSE, subject knowledge could be learnt "anecdotally" (Cate (R)#4). She made the point that her students "realized that process needed to be learned, but they thought they already knew the content" (Cate (R) #4). These comments may reflect the longer life experience of her students, several of whom were single parents of school-age children. Many of her students thought they " 'could already teach a class' they just had to 'get through the course', hence there was not much interest in really stretching their knowledge" (Cate (R)#5).

Tina found that student-teachers preferred to rely on internet sources rather than tertiary sources for their subject knowledge and that there was little effort to develop the concepts associated topic. She identified lack of conceptual content knowledge as a significant weakness (Tina (R)#3). As a result, she found some topics had been "trivialized" (Tina (R)#4). For example, the water-conservation activities in a unit on Water were generally good, but there was a lack of emphasis on "the values perspective in terms of teaching for a shift in attitude or action" (Tina (R) #5).

Despite the impression that the SOSE content was superficial, some students were doing additional reading. According to Hugh, some students who did not know much found that once they started the research they became interested in the topic and were determined to know more (Hugh (D)#2). However, he observed that all his students based their knowledge on basic secondary sources (such as would be available to school students) and were not prepared to research further due to limited knowledge of how to do research and poor research skills (Hugh (D)#3; Hugh (D)#4).

<u>Conceptualization of SOSE teaching in the classroom</u>:

The conceptualization of a SOSE unit in terms of the teacher's demonstration and understanding of subject knowledge needs to be differentiated from the ability to produce a SOSE unit that will engage students in teaching and learning activities on the topic. For example, Tina found that there was little effort to formally teach understanding of the concept of "diversity" or "democracy" in the SOSE units she marked, yet the unit would include a range of student-centred activities that would build understanding of the concept over the duration of the unit (Tina (R)#6). She found her student-teachers assumed that primary school students already had good knowledge of the topic, therefore "content is to be brainstormed rather than introduced or 'taught' by the teacher" (Tina (R) #7).

Similarly, Elsie observed that the interactive style of pedagogy favoured by her students came "at the expense of content delivery" (Elsie (R) #2). All the tutors commented that their students had problems sequencing the activities in their units which sometimes meant that content was "taught" by the teacher after the activity had been concluded. According to Elsie,

> My most common comment was, 'Will they know enough?' because they expected students to have a really high level of prior knowledge or be able to glean from the activities the content they expected students to know (Elsie (R) #3).

However, despite some problems in sequencing (Elsie (R)#4), Elsie was extremely positive about the kinds of activities that students used to teach SOSE:

> …there were some excellent activities used. Many of them had learning centres, activities in the field (culminating in assessment items) and most students included activities discussed in the tutorial activity books (Elsie (R)#5)

She commented how "fantastic" (Elsie (R)#5) it was to see excellent activities being developed. Similarly, Cate mentioned that she had taught her students how to structure and support the research process in SOSE. She emphasized with her students the importance of teaching and mentoring the research process, not just the research outcome, with the result that many of her students had used this strategy well in their units (Cate (R)#6). However she also had some students who had not attended the sessions on how to teach research skills which meant they "had students 'on-line doing research'….that was the level of their pedagogy" (Cate (R)#7).

Sue and Hugh were critical of the use of teaching strategies. Sue expressed deep concern that her students had not attempted to teach SOSE skills with appropriate scaffolding. For example, many had students "do a timeline", or "conduct a survey of their parents" (Sue (R) #6) but provided no scaffolding to teach this skill. Hugh, in particular, was concerned that research skills were not being taught, and that this was perhaps because the student-teachers themselves lacked this ability (Hugh (D)#4). He was also critical of the use of open class discussion based on the assumption that students already had some knowledge of the topic. The class discussions were generally teacher-directed and lacked set discussion questions to initiate the discussion (Hugh (R)#3). He cited a lack of creativity and imagination in some SOSE units and attributed it to a lack of content knowledge (Hugh (R)#4). In his reflection he observed:

> When people know their subject they are usually more comfortable in it and able to think of more abstract ways and teaching pedagogies to implement new knowledge into the classroom (Hugh (R) #5).

However, like Elsie (Elsie (R)#6), Hugh also implied there may be a link between excellent learning activities and effective assessment (Hugh (R)#6). This was demonstrated in an example he gave of a SOSE unit on the environmental impact or footprint of a house. The assessment item was to build a model of a sustainable house which addressed concepts of sustainability which had been taught in the unit (Hugh (R)#7). This was a unit that demonstrated creativity and an understanding of the application of multiple intelligences in assessment (Hugh (R)#8).

Primary student-teachers used a variety of teaching strategies in their SOSE units and the way the strategies were used varied in quality. To some extent this can be attributed to the modeling and support they received from their tutors, the use of a tutorial activity book that detailed a variety of teaching strategies applicable to SOSE and the enactment of these strategies in the tutorial sessions. The variable quality may also relate to the student-teachers' own confidence with the subject knowledge.

Pedagogy and use of inquiry learning:

The Queensland SOSE syllabus (QSCC, 2000, p. 8) advocates that the processes of "reflective inquiry" are to be used in the planning and teaching of SOSE. Two weeks were devoted to the inquiry learning approach and how to develop teaching activities in relation to the phases of inquiry into a SOSE topic or issue. Students were encouraged to see SOSE teaching as inquiry-based, with the use of key and focus questions in their SOSE units. Several models of social inquiry (eg., TELSTAR, Social Investigation Strategy, Action Research Model) were presented to the students and the kinds of teaching activities appropriate to each of the phases of inquiry were discussed in the tutorials. It was expected that the SOSE units would be structured according to the use of a model of inquiry and that the pedagogy revealed in the unit overview would reflect inquiry learning.

Although there was no formally assessed practical component in the unit, the use of an inquiry approach in the student-teachers' SOSE units made it possible to evaluate their theoretical grasp of pedagogical content knowledge in SOSE. As indicated in the discussion in the previous section, there was a lot of variation in the quality of the teaching activities developed. Student-teachers had appreciated the nature of student-centred learning in SOSE and had, to a large extent, incorporated engaging activities. In contrast, subject-specific knowledge such as the knowledge of particular concepts or processes was not consistently demonstrated through the activities, indicating, in some cases, a weak understanding of subject knowledge. Curriculum units are not the ideal way to evaluate student-teachers grasp of pedagogical content knowledge as this is best demonstrated in a practical setting. However, given the nature of teacher-education, it is important to introduce some aspects of pedagogical content knowledge so that student-teachers have something to draw on when they are in the classroom. Inquiry-based learning, while not specific to SOSE, is an important component of constructivist teaching in SOSE and its use in planning provides a useful insight into student-teachers' pedagogical content knowledge.

Three of the research participants commented on the use of an inquiry approach in the SOSE units. Tina found that most students used an inquiry approach, and in particular, the "Take action" phase where students are encouraged to engage in practical activities that show new understanding of the issue was done quite well (Tina (R)#8). However, she identified problems with sequencing activities appropriately and relating them to a particular phase of inquiry (Tina (R)#9). Sue was concerned students "did not use the models as well as they could" (Sue (R)#7). Some had misinterpreted the initial stages of an inquiry, when students should be introduced to the concepts of the topic and "many went straight into research mode" (Sue (R)#8). Elsie wondered how she had failed her students because she found they had very limited understanding of the concept of inquiry models:

> I don't know what I did wrong but they appear to be no clearer about the concept [of inquiry models] at the end of the semester! This was reflected in the activities they placed in certain parts of the inquiry they chose and their analyses and discussions of the inquiry model they had chosen as well as their justification of their choice (Elsie (R)#6).

This is a common problem with pre-service SOSE teachers at this early stage of their education (Elsie (R)#7; Tina (R)#10). However, in her evaluation of the use of inquiry,

Elsie concluded that “There seemed to be a high correlation between understanding of the inquiry model and excellent approaches to content and assessment” (Elsie (R)#8). It is not possible to infer from this comment that good subject knowledge will, in practice, always lead to good pedagogical content knowledge. However, it seems that good subject knowledge *for teaching* is related to good pedagogical knowledge. While knowing the subject is often quite different to knowing how to teach it, one can infer that it may not be possible to teach with confidence in the absence of a level of subject knowledge.

Discussion

A study of primary student-teachers’ SOSE units was conducted through reflection data gathered from the five university-based teacher educators associated with the teaching and assessment of a SOSE curriculum unit. The data revealed that many student-teachers drew on their own secondary school background for subject knowledge of their SOSE topics. They tended to stick with topics they knew; some perceived that they already had sufficient personal experience and general understanding of SOSE issues and topics so that further research to support or develop their subject knowledge was not undertaken. Despite the fact that an academic justification for the topic with a minimum of three tertiary references was required, it seemed that primary student-teachers did not “see” that an academic knowledge of the topic or the social science discipline that underpinned the topic was necessary. It was acknowledged by all the research participants that with primary student-teachers we are starting with a low knowledge base, a point also supported in teacher professional literature by Schulz (2006), Lawless (2003) and Turner-Bisset (2001).

The data revealed that a wide variety of SOSE topics was selected. The integrated nature of SOSE meant that there were few history or geography specific topics selected, with the majority of topics related to environmental education, cultural studies and civics and citizenship. Indigenous perspectives were incorporated into a range of topics, but there was some reluctance to develop units on aboriginal studies for fear of getting the material wrong. The discipline specific skills that underpin much of social science education did not feature largely in the SOSE units, indicating perhaps that primary student-teachers did not really consider the disciplines that underpin SOSE to be particularly influential in their teaching plan.

So, how important is subject knowledge based on the disciplines for primary teachers? Shulman (1986, 1987) asserted the importance of subject knowledge as one of the knowledge bases of teaching, but was reluctant to promote the importance of disciplinary-based knowledge for primary teachers in comparison with secondary teachers whose work is much more closely aligned with the disciplines. The data considered in this paper cannot provide a satisfactory answer to this question. However, what is indicated in this study is that primary student-teachers do struggle with subject-specific knowledge, possibly because they may have neither a disciplinary background in the social sciences nor do they attach great importance to developing a strong conceptual understanding as the basis of their teaching in SOSE. Furthermore, there is a perception among some primary student-teachers, particularly those who are mature-age or making a career change, that they already have sufficient basic knowledge in the social sciences to enable them to teach SOSE.

Although the evidence presents a somewhat disheartening picture of the importance of subject knowledge amongst primary SOSE student-teachers, it seems that their pedagogical content knowledge was developing quite well. Student-teachers embraced constructivist teaching approaches readily and were interested in developing teaching activities that would engage their students. On the whole, student-teachers understood how to use an inquiry approach in SOSE planning, even if they occasionally failed to match the phases of inquiry with appropriate activities. However, it was observed that skills specific to the disciplines were not scaffolded well. This could be attributed to the fact that the course materials and tutorial activities centred on teaching strategies and cognitive approaches but did not identify or teach discipline-specific skills such as mapping, analysis of primary and secondary sources, developing survey questions or graphing data. The lecture program and course materials did not specifically target disciplinary knowledge.

Generalizations that can be drawn from this study are limited because of the nature of the evidence which was limited to written reflections and follow up discussions from the tutors involved in the teaching of the curriculum unit. The fact that each of the tutors had a disciplinary and professional background based in the humanities may have shaped their reflections. The absence of data from the student-teachers themselves limits the authority of the findings drawn from the reflections of tutors associated with SOSE teacher-education. It is also difficult to generalize from experiences with student teachers to the work of practicing primary SOSE teachers. In the "real world" of teaching, primary SOSE teachers are likely to be constrained by many factors in their choice of SOSE content, including school policies, availability of resources such as textbooks and lack of time to research new topics relevant to students' interests. The teacher's own subject knowledge of a few tried and true topics may be sufficient reason for sticking with those topics.

However, what this research has shown is that primary SOSE teachers begin their teacher education with a weak knowledge base in the humanities disciplines. This limits their ability to develop knowledge of concepts and issues in their SOSE unit plans. The sources of primary SOSE student-teachers' knowledge is sometimes anecdotally based, drawn from life experience or their own experience with social science from secondary school. Thus the impact of SOSE teacher education seems to be in the area of developing pedagogical content knowledge rather than subject content knowledge.

Conclusion

In the absence of systematic studies on the teaching of primary SOSE, this analysis has documented SOSE student-teachers' approach to subject knowledge and theoretical grasp of pedagogical content knowledge. It was not the intention to dwell on deficit views of SOSE teaching as student-teachers and practicing teachers alike focus on achieving successful learning outcomes for their students. However, this study demonstrates that primary SOSE student-teachers' subject knowledge is unlikely to derive from discipline-specific knowledge or be drawn from understanding based on research into the issues or wide reading. More specialized research into the sources of subject knowledge and the importance of discipline-specific knowledge for practicing primary SOSE teachers is needed to further substantiate the findings. The implications for teacher education are two-fold: first, if primary SOSE teaching is to be based on a more rigorous understanding of important social issues and topics, it is important that mandatory foundation studies incorporate a stronger disciplinary basis. Second, SOSE

curriculum studies should also attempt to give greater importance to the underlying disciplinary basis of SOSE with a view to teaching some of the skills associated with the social sciences. Such an approach would enhance the status of SOSE and the overall standard of SOSE teaching.

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